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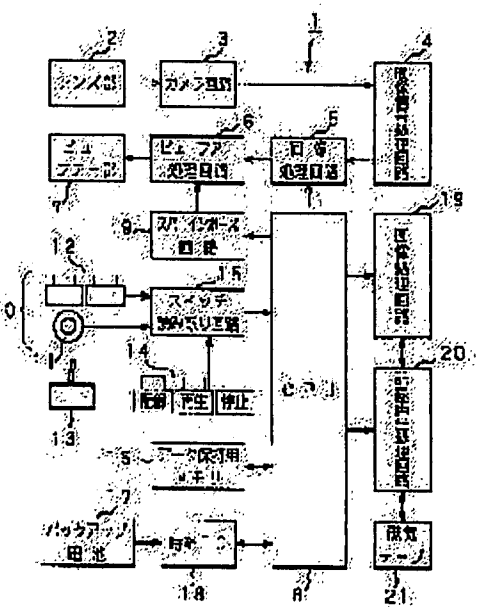
(54) PORTABLE VIDEO RECORDING DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To realize prevention of a theft in advance by allowing only a regular user entering a correct password to use freely all functions of the recorder.
SOLUTION: Image processing circuits 5, 19 apply image quality deterioration processing to an image consisting of video signals obtained by image pickup. A data storage memory 16 stores received data independently of power interruption. A data entry section 10 enters a password having been stored in advance to the data storage memory 16 by a regular user, time data such as recorder use time data and a password required at any time to the data storage memory 16. A CPU 8 controls image quality deterioration processing of an image processing circuit 19 with respect to an image depending on the presence of excess of the integration power application time data backed up in the data storage memory 16 with respect to the recorder use available time data based on the comparison result between the password data required at any time and entered by the data entry section 10 and the password data stored in advance in the data storage memory 16 and on the calculation.



LEGAL STATUS

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TECHNICAL FIELD

[The technical field to which invention belongs] this invention relates to a carried type image recording device which it waits [recording device] for the input of the right personal identification number, and operates all functions especially about the carried type image recording device which records the video signal obtained by the image pck-up.

[Translation done.]

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PRIOR ART

[Description of the Prior Art] The miniaturization is promoted by pursuit of portability [recording device / carried type image / like recent years, for example, a camcorder/movie,]. In those for general, also in business use, the inclination is strong from the first.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] By the way, since there was no anti-theft function in the conventional above-mentioned carried type image recording device, the equipment which suited the theft might be dealt in and it might be used over the 3rd person to whom use originally is not permitted. This can be called trouble generated since the measures supposing the time of a theft are not taken against an equipment side.
[0004] this invention is made in view of the above-mentioned actual condition, prepares a personal identification number input function, is that only the regular user who inputted the right personal identification number enables it to use all the functions of equipment freely, and aims at offer of the carried type image recording device which can realize before-it-happens prevention of a theft.

[Translation done.]

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MEANS

[Means for Solving the Problem] The carried type image recording device concerning this invention controls quality-of-image degradation processing of the above-mentioned image-processing means against the picture from which control means were obtained by the image pck-up based on the comparison result of the time data the user made a time data the comparison result with the personal-identification-number data beforehand memorized by the personal-identification-number data needed at any time [which was inputted by the data input means], and the data-storage means, and the above-mentioned data-storage means memorize beforehand, and the time data at the time of equipment use, in order to solve the above-mentioned technical problem.
[0006] Moreover, the above-mentioned data input means is equipped with a character input switch and a character determination switch, changes, and the above-mentioned character determination switch is made to determine it, displaying on a display means the character inputted by the above-mentioned character input switch, and it makes the above-mentioned personal identification number input in the case of the input of the above-mentioned personal identification number.
[0007] Moreover, the above-mentioned data-storage means has memorized a different special personal identification number peculiar to equipment from the personal identification number beforehand memorized by the above-mentioned user.
[0008]
[Embodiments of the Invention] It explains referring to a drawing hereafter about the gestalt of operation of the carried type image recording device concerning this invention.
[0009] It is the carried type camera one apparatus video tape recorder (VTR) 1 as the gestalt of this operation indicates a block diagram to drawing 1 and indicates an appearance perspective diagram to be to drawing 2 , and the operation of all the equipment functions by use of a personal identification number (henceforth password) a non-inputted person is prevented. All equipment functions here are outputting the picture by the picturized video signal as it is, and are scrambling a part of above-mentioned picture as preventing the operation of all equipment functions, or making it missing, and degrading quality of image.
[0010] The image-processing circuits 5 and 19 which perform quality-of-image degradation processing to the picture which consists of a video signal obtained by the image pck-up as this camcorder/movie 1 is shown in drawing 1 , The memory 16 for data-hold which memorizes the data inputted irrespective of power off, Time datas, such as a password which the regular user makes this memory 16 for data-hold memorize beforehand, and equipment time data, and the data input section 10 for inputting the password needed at any time, The password data needed at any time [which was inputted by this data input section 10 / above-mentioned], A comparison result with the password data

beforehand memorized by the memory 16 for data-hold, By the existence of the excess to the above-mentioned equipment usable time data of the addition energization time data which asks by calculation and is backed up by the above-mentioned memory 16 for data-hold, it has the control circuit (CPU) 8 which controls the quality-of-image degradation processing of the image-processing circuit 19 to the above-mentioned picture.

[0011] Moreover, the camera circuit 3 where this camcorder/movie 1 changes into an electrical signal the image pck-up signal which entered from the lens section 2, The electrical signal from the camera circuit 3 For example, the video-signal processing circuit 4 changed into the video signal which takes TV signal form of NTSC/PAL, The view fur processing circuit 6 which performs view fur processing to a video signal from the image-processing circuit 5 controlled by the above CPU 8, It also has the record regeneration circuit 20 which gives the record processing which is suitable for a video signal recording on a magnetic tape 21 from the view fur section 7 which projects the video signal from the view fur processing circuit 6, and the image-processing circuit 19 controlled by the above CPU 8, or regeneration.

[0012] Furthermore, the above-mentioned password into which this camcorder/movie 1 was inputted from the data input section 10 and the switch reading circuit 15 which reads the equipment available time, The superimposition circuit 9 which changes into a video signal the character which CPU8 chose from the above-mentioned password data which this switch reading circuit 15 read, or an equipment usable time data, and is supplied to the above-mentioned view fur processing circuit 6, It has the clock IC 18 used as the electric power switch 13 which turns on / turns off a power supply, the device operation switch 14 which chooses record / reproduction / halt of VTR, and the time management means which is always moving by the backup cell 17.

[0013] In addition, the data input section 10 is equipped with the character input switch 11 which consists of a rotary switch and chooses the input of a character, and the character determination switch 12 from which it consists of a baton switch and chooses the determination of a character, and negative.

[0014] The video signal which entered from the lens section 2 is changed into an electrical signal in the camera circuit 3. And through the video-signal processing circuit 4, it is changed into TV signal form of NTSC/PAL, and projects on the view fur section 7 through the image-processing circuit 5 and the view fur processing circuit 6.

[0015] Although the image-processing circuits 5 and 19 perform quality-of-image degradation processing to the picture which consists of a video signal outputted from the video-signal processing circuit 4, a part of picture is specifically scrambled, or they are made missing here. Moreover, you may degrade the quality of image of the whole picture. A setup of quality-of-image degradation processing in these image-processing circuits 5 and 19 can be performed from the data input section 10.

[0016] When this camcorder/movie 1 is a recording mode, the video signal which passed through the video-signal processing circuit 4 is supplied to the record regeneration circuit 20 through the image-processing circuit 19. And after signal transformation processing for record is performed in the record regeneration circuit 20, it is recorded on a magnetic tape 21.

[0017] Moreover, when this camcorder/movie 1 is a playback mode, signal transformation processing contrary to the time of record in the record regeneration circuit 20 is performed to the signal reproduced from the magnetic tape 21, and the video-signal processing circuit 4 is supplied through the image-processing circuit 19, and it is changed into TV signal form of NTSC/PAL, and projects on the BIFA section 7 through the view fur processing circuit 6.

[0018] The switch signal from the character input switch 11 and the character determination switch 12 which constitute the data input section 10, an electric power switch 13, and the device operation switch 14 is inputted into CPU8 through the switch reading circuit 15. CPU8 chooses the character needed from each switch data of the data input section 10, and sends an alphabetic data to the superimposition circuit 9. The superimposition circuit 9 changes an alphabetic data into a video signal, sends it to the view fur processing circuit 6, and the view fur

processing circuit 6 superimposes the character on an image on the signal by which it came from the video-signal processing circuit 4, and it projects it on the view fur section 7.
[0019] Address control is carried out by CPU8, and the password data inputted from the data input section 10, an equipment usable time data, and the data about a setup of the image-processing circuits 5 and 19 are stored in the memory 16 for data-hold. This memory 16 for data-hold holds data, even if a power supply is shut off. And data communication is performed in this memory 16 for data-hold and CPU8.
[0020] Moreover, the clock IC 18 connected to the backup cell 17 performs CPU8 and data communication, and is exchanging time data.
[0021] CPU8 controls the quality-of-image degradation processing of the image-processing circuit 19 to the above-mentioned picture by the comparison result of the password data needed at any time [which was inputted by the data input section 10 / above-mentioned] and the password data beforehand memorized by the memory 16 for data-hold, and existence of the excess to the above-mentioned equipment usable time data of the addition energization time data which asks by calculation and is backed up by the above-mentioned memory 16 for data-hold, as mentioned above.
[0022] Below, concrete operation of CPU8 is explained, referring to the flow chart of drawing 3 and drawing 4 . First, if a user turns ON an electric power switch 13, CPU8 will receive a set power supply ON signal, as shown in Step S1. And CPU8 performs data communication between the memory 16 for data-hold that a memory check should be carried out as shown in Step S2.
[0023] Next, CPU8 investigates whether quality-of-image degradation processing is performed to the picture to be picturized whether the present protected mode is used and from now on. That is, a protected mode here is the mode which performs quality-of-image degradation processing to a picture. At Step S3, if it judges with the protected mode not being used, CPU8 will not make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, as shown in Step S10, but will carry out through [of the video signal from the video-signal processing circuit 4]. The judgment of whether the protected mode of Step S3 is used is continuously performed until it is judged with YES by the judgment of whether to have received the set power supply OFF signal from an electric power switch 13 (i.e., until an electric power switch 13 is turned off).
[0024] If it judges with having become YES, i.e., a protected mode, at Step S3, as shown in Step S4, CPU8 will make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, and will ask for a password input. Namely, CPU8 asks for the input of a password for every power up, as mentioned above.
[0025] Next, CPU8 judges whether a password input is right in accordance with the password with which the password inputted from the data input section 10 is beforehand memorized by the memory 16 for data-hold as shown in Step S5. Since it returns to Step S4 if a password input is not right here, a protected mode is continued. On the other hand, if it judges with a password input being right, it progresses to Step S6, and CPU8 will cancel a protected mode and will stop quality-of-image degradation processing of the image-processing circuits 5 and 19.
[0026] CPU8 is calculated as the resistance welding time of this equipment was also mentioned above, and as it is shown in Step S7 whether the equipment available time memorized by the memory 16 for data-hold was exceeded, it is judged. Here, the data of the above-mentioned addition resistance welding time are also backed up irrespective of power off by the memory 16 for data-hold which memorizes data. CPU8 does not make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, if it judges with the above-mentioned addition resistance welding time not being over the above-mentioned equipment available time at this step S7 while it processes effective ********** by the superimposition circuit 9 and the view fur processing circuit 6 and displays it on the BIFA section 7. If CPU8 judges with the resistance welding time having exceeded the equipment available time, while displaying that on the view fur section 7 on the other hand, return to Step S4, and the image-processing circuits 5 and 19 are made to carry out quality-of-image degradation processing, and it asks for a password input.

[0027] In addition, since it warns in case the quality-of-image processing circuits 5 and 19 are made to carry out quality-of-image degradation processing, you may wait for postponement of fixed time.
[0028] And it judges whether CPU8 progresses to Step S8, and has change of setting data. Here, if it judges with there being no change, it will progress to step S9. In step S9, if it judges whether the set power supply OFF signal by the electric power switch 13 was supplied and a power supply OFF signal is detected, this flow chart will be considered as an end. On the other hand, if it judges with having not received the set power supply OFF signal, it will return to Step S7 here.
[0029] Moreover, if it judges, it will shift to the step S12 which has change of setting data at Step S8 and which is shown in drawing 4 .
[0030] If CPU8 judges with those of YES, i.e., setting data, with change by judgment at Step S8, as shown in Step S12, it will judge whether it is changing the equipment available time. Here, if it judges with changing the equipment available time, as shown in Step S13, it will ask for the input of the new equipment available time. Also in this case, that is displayed on the view fur section 7. On the other hand, if it judges with there being no change of the equipment available time, it will progress to Step S16 and will judge whether a password function is canceled. If a password function is canceled, it will progress to Step S17, the data of the memory 16 for data-hold will be updated, and this flow chart will be ended.
[0031] If the input of the new equipment available time shown in Step S13 makes a user judge whether it is right at Step S14 and is right there, CPU8 will update the data of the memory for data-hold, as shown in Step S15.
[0032] If it judges with not canceling a password function at Step S16, it will progress to Step S18 and will ask for the input of an equipment use effective date. The mode in which it asks for a password input by the effective date is also set to this camcorder/movie 1. And it checks to a user whether the above-mentioned effective date is sufficient at Step S19, and if good and it will become, as shown in Step S20, the data of the memory 16 for data-hold will be updated, and this flow chart will be ended.
[0033] The mode in which it asks for the password in the above-mentioned effective date is explained. If it becomes this mode, CPU8 will communicate with a clock IC 18, and will investigate the date used as the present time entry. Moreover, the effective date which the memory 16 for data-hold communicates and is set up beforehand is investigated and compared.
[0034] If it is not over the setup time, a setting date is displayed on the view fur section 7. If it is over the setup time, the announcement which tells having exceeded the effective use date, and the announcement which asks for a password input will be displayed on the view fur section 7. And the above-mentioned picture is made to carry out quality-of-image degradation processing by the image-processing circuits 5 and 19 until a user does the completion of an input of the right password.
[0035] Thus, the camcorder/movie 1 used as the gestalt of the above-mentioned implementation makes only the regular user who inputted the right password use all the functions of equipment freely for every power up, and enables limitation of equipment licence time.
[0036] In addition, if operation as shown in CPU8 at drawing 5 is made to perform and the present resistance welding time does not exceed the equipment available time, you may make it not ask for the input of a new password, although this camcorder/movie 1 asked for the input of a password for every power up. That is, you may make it ask for a new password input only after the present resistance welding time exceeds an equipment time.
[0037] That is, when CPU8 is made to judge whether the resistance welding time exceeded the equipment available time as shown in Step S21 and excess is detected at it, as shown in Step S22, this modification makes the image-processing circuits 5 and 19 carry out quality-of-image degradation processing, and asks for a password input. On the other hand, if CPU8 judges with the resistance welding time not being over the equipment available time, it will progress to Step S8.
[0038] And at Step S22, CPU8 judges whether the password input for which it asked is right at Step S23, if it judges with it being right here,

it will progress to Step S24, will cancel a protected mode, and will not make the image-processing circuits 5 and 19 carry out quality-of-image degradation processing, but will carry out through [of the video signal of the video-signal processing circuit 4].
[0039] In addition, since processing of each step except the above-mentioned step S21 - Step S24 is the same as processing of drawing 3 and drawing 4 , explanation is omitted here.
[0040] Therefore, since the demand of the password input for every power up is made unnecessary, though too much burden to a user is mitigated according to the modification of the gestalt of this operation, only the regular user who inputted the right password can be made to use all the functions of equipment freely, and limitation of equipment licence time is enabled.
[0041] In addition, in the gestalt of the above-mentioned implementation, and its modification, since the character input switch 11 and the character determination switch 12 constitute the data input section 10, the character determination switch 12 can determine in the case of an input of the above-mentioned password, displaying on the view fur section 7 the character inputted with the character input switch 11. That is, CPU8 displays the 1st character of an input password on a view fur, after displaying the announcement which asks for a password on the view fur section 7. This character changes in the number by the character input switch 11, and the combination of the alphabet. And a user pushes and determines the character determination switch 12, after finishing selection of one character with the character input switch 11. After the input of the 1st character is completed, after the display of the 1st character, CPU8 performs the display of the 2nd character and waits for a character input again. For this reason, operation of a password, the input of a time data, etc. can be simplified.
[0042] When the repeat of the above-mentioned operation is performed and an input character string becomes equal to a setting password, CPU8 indicates that the right password was inputted on the view fur section 7, and orders it to cancel quality-of-image degradation processing in the image-processing circuits 5 and 19. If this instruction is received, the image-processing circuits 5 and 19 will suspend quality-of-image degradation processing, and will output the video signal from the video-signal processing circuit 4 as a picture as it is.
[0043] Moreover, the memory 16 for data-hold may memorize a different special password peculiar to equipment from the password beforehand memorized by the above-mentioned above-mentioned user. For this reason, when the user should have forgotten the password, change of a user setting password can be enabled in an equipment maker.
[0044] Moreover, you may make it have the function which makes unnecessary the above-mentioned quality-of-image degradation processing for the user who does not desire password use in the gestalt of the above-mentioned implementation, and its modification.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to a carried type image recording device which it waits [recording device] for the input of the right personal identification number, and operates all functions especially about the carried type image recording device which records the video signal obtained by the image pck-up.
[0002]
[Description of the Prior Art] The miniaturization is promoted by pursuit of portability [recording device / carried type image / like recent years, for example, a camcorder/movie,]. In those for general, also in business use, the inclination is strong from the first.
[0003]
[Problem(s) to be Solved by the Invention] By the way, since there was no anti-theft function in the conventional above-mentioned carried type image recording device, the equipment which suited the theft might be dealt in and it might be used over the 3rd person to whom use originally is not permitted. This can be called trouble generated since the measures supposing the time of a theft are not taken against an equipment side.
[0004] this invention is made in view of the above-mentioned actual condition, prepares a personal identification number input function, is that only the regular user who inputted the right personal identification number enables it to use all the functions of equipment freely, and aims at offer of the carried type image recording device which can realize before-it-happens prevention of a theft.
[0005]
[Means for Solving the Problem] The carried type image recording device concerning this invention controls quality-of-image degradation processing of the above-mentioned image-processing means against the picture from which control means were obtained by the image pck-up based on the comparison result of the time data the user made a time data the comparison result with the personal-identification-number data beforehand memorized by the personal-identification-number data needed at any time [which was inputted by the data input means], and the data-storage means, and the above-mentioned data-storage means memorize beforehand, and the time data at the time of equipment use, in order to solve the above-mentioned technical problem.
[0006] Moreover, the above-mentioned data input means is equipped with a character input switch and a character determination switch, changes, and the above-mentioned character determination switch is made to determine it, displaying on a display means the character

inputted by the above-mentioned character input switch, and it makes the above-mentioned personal identification number input in the case of the input of the above-mentioned personal identification number.
[0007] Moreover, the above-mentioned data-storage means has memorized a different special personal identification number peculiar to equipment from the personal identification number beforehand memorized by the above-mentioned user.
[0008]
[Embodiments of the Invention] It explains referring to a drawing hereafter about the gestalt of operation of the carried type image recording device concerning this invention.
[0009] It is the carried type camera one apparatus video tape recorder (VTR) 1 as the gestalt of this operation indicates a block diagram to drawing 1 and indicates an appearance perspective diagram to be to drawing 2 , and the operation of all the equipment functions by use of a personal identification number (henceforth password) a non-inputted person is prevented. All equipment functions here are outputting the picture by the picturized video signal as it is, and are scrambling a part of above-mentioned picture as preventing the operation of all equipment functions, or making it missing, and degrading quality of image.
[0010] The image-processing circuits 5 and 19 which perform quality-of-image degradation processing to the picture which consists of a video signal obtained by the image pck-up as this camcorder/movie 1 is shown in drawing 1 , The memory 16 for data-hold which memorizes the data inputted irrespective of power off, Time datas, such as a password which the regular user makes this memory 16 for data-hold memorize beforehand, and equipment time data, and the data input section 10 for inputting the password needed at any time, The password data needed at any time [which was inputted by this data input section 10 / above-mentioned], A comparison result with the password data beforehand memorized by the memory 16 for data-hold, By the existence of the excess to the above-mentioned equipment usable time data of the addition energization time data which asks by calculation and is backed up by the above-mentioned memory 16 for data-hold, it has the control circuit (CPU) 8 which controls the quality-of-image degradation processing of the image-processing circuit 19 to the above-mentioned picture.
[0011] Moreover, the camera circuit 3 where this camcorder/movie 1 changes into an electrical signal the image pck-up signal which entered from the lens section 2, The electrical signal from the camera circuit 3 For example, the video-signal processing circuit 4 changed into the video signal which takes TV signal form of NTSC/PAL, The view fur processing circuit 6 which performs view fur processing to a video signal from the image-processing circuit 5 controlled by the above CPU 8, It also has the record regeneration circuit 20 which gives the record processing which is suitable for a video signal recording on a magnetic tape 21 from the view fur section 7 which projects the video signal from the view fur processing circuit 6, and the image-processing circuit 19 controlled by the above CPU 8, or regeneration.
[0012] Furthermore, the above-mentioned password into which this camcorder/movie 1 was inputted from the data input section 10 and the switch reading circuit 15 which reads the equipment available time, The superimposition circuit 9 which changes into a video signal the character which CPU8 chose from the above-mentioned password data which this switch reading circuit 15 read, or an equipment usable time data, and is supplied to the above-mentioned view fur processing circuit 6, It has the clock IC 18 used as the electric power switch 13 which turns on / turns off a power supply, the device operation switch 14 which chooses record / reproduction / halt of VTR, and the time management means which is always moving by the backup cell 17.
[0013] In addition, the data input section 10 is equipped with the character input switch 11 which consists of a rotary switch and chooses the input of a character, and the character determination switch 12 from which it consists of a baton switch and chooses the determination of a character, and negative.
[0014] The video signal which entered from the lens section 2 is changed into an electrical signal in the camera circuit 3. And through the

video-signal processing circuit 4, it is changed into TV signal form of NTSC/PAL, and projects on the view fur section 7 through the image-processing circuit 5 and the view fur processing circuit 6.
[0015] Although the image-processing circuits 5 and 19 perform quality-of-image degradation processing to the picture which consists of a video signal outputted from the video-signal processing circuit 4, a part of picture is specifically scrambled, or they are made missing here. Moreover, you may degrade the quality of image of the whole picture. A setup of quality-of-image degradation processing in these image-processing circuits 5 and 19 can be performed from the data input section 10.
[0016] When this camcorder/movie 1 is a recording mode, the video signal which passed through the video-signal processing circuit 4 is supplied to the record regeneration circuit 20 through the image-processing circuit 19. And after signal transformation processing for record is performed in the record regeneration circuit 20, it is recorded on a magnetic tape 21.
[0017] Moreover, when this camcorder/movie 1 is a playback mode, signal transformation processing contrary to the time of record in the record regeneration circuit 20 is performed to the signal reproduced from the magnetic tape 21, and the video-signal processing circuit 4 is supplied through the image-processing circuit 19, and it is changed into TV signal form of NTSC/PAL, and projects on the BIFA section 7 through the view fur processing circuit 6.
[0018] The switch signal from the character input switch 11 and the character determination switch 12 which constitute the data input section 10, an electric power switch 13, and the device operation switch 14 is inputted into CPU8 through the switch reading circuit 15. CPU8 chooses the character needed from each switch data of the data input section 10, and sends an alphabetic data to the superimposition circuit 9. The superimposition circuit 9 changes an alphabetic data into a video signal, sends it to the view fur processing circuit 6, and the view fur processing circuit 6 superimposes the character on an image on the signal by which it came from the video-signal processing circuit 4, and it projects it on the view fur section 7.
[0019] Address control is carried out by CPU8, and the password data inputted from the data input section 10, an equipment usable time data, and the data about a setup of the image-processing circuits 5 and 19 are stored in the memory 16 for data-hold. This memory 16 for data-hold holds data, even if a power supply is shut off. And data communication is performed in this memory 16 for data-hold and CPU8.
[0020] Moreover, the clock IC 18 connected to the backup cell 17 performs CPU8 and data communication, and is exchanging time data.
[0021] CPU8 controls the quality-of-image degradation processing of the image-processing circuit 19 to the above-mentioned picture by the comparison result of the password data needed at any time [which was inputted by the data input section 10 / above-mentioned] and the password data beforehand memorized by the memory 16 for data-hold, and existence of the excess to the above-mentioned equipment usable time data of the addition energization time data which asks by calculation and is backed up by the above-mentioned memory 16 for data-hold, as mentioned above.
[0022] Below, concrete operation of CPU8 is explained, referring to the flow chart of drawing 3 and drawing 4 . First, if a user turns ON an electric power switch 13, CPU8 will receive a set power supply ON signal, as shown in Step S1. And CPU8 performs data communication between the memory 16 for data-hold that a memory check should be carried out as shown in Step S2.
[0023] Next, CPU8 investigates whether quality-of-image degradation processing is performed to the picture to be picturized whether the present protected mode is used and from now on. That is, a protected mode here is the mode which performs quality-of-image degradation processing to a picture. At Step S3, if it judges with the protected mode not being used, CPU8 will not make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, as shown in Step S10, but will carry out through [of the video signal from the video-signal processing circuit 4]. The judgment of whether the protected mode of Step S3 is used is continuously performed until it is judged with YES by the judgment of whether to have received the set power supply OFF signal from an electric power switch 13 (i.e., until

an electric power switch 13 is turned off).
[0024] If it judges with having become YES, i.e., a protected mode, at Step S3, as shown in Step S4, CPU8 will make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, and will ask for a password input. Namely, CPU8 asks for the input of a password for every power up, as mentioned above.
[0025] Next, CPU8 judges whether a password input is right in accordance with the password with which the password inputted from the data input section 10 is beforehand memorized by the memory 16 for data-hold as shown in Step S5. Since it returns to Step S4 if a password input is not right here, a protected mode is continued. On the other hand, if it judges with a password input being right, it progresses to Step S6, and CPU8 will cancel a protected mode and will stop quality-of-image degradation processing of the image-processing circuits 5 and 19.
[0026] CPU8 is calculated as the resistance welding time of this equipment was also mentioned above, and as it is shown in Step S7 whether the equipment available time memorized by the memory 16 for data-hold was exceeded, it is judged. Here, the data of the above-mentioned addition resistance welding time are also backed up irrespective of power off by the memory 16 for data-hold which memorizes data. CPU8 does not make quality-of-image degradation processing perform to the image-processing circuits 5 and 19, if it judges with the above-mentioned addition resistance welding time not being over the above-mentioned equipment available time at this step S7 while it processes effective ********** by the superimposition circuit 9 and the view fur processing circuit 6 and displays it on the BIFA section 7. If CPU8 judges with the resistance welding time having exceeded the equipment available time, while displaying that on the view fur section 7 on the other hand, return to Step S4, and the image-processing circuits 5 and 19 are made to carry out quality-of-image degradation processing, and it asks for a password input.
[0027] In addition, since it warns in case the quality-of-image processing circuits 5 and 19 are made to carry out quality-of-image degradation processing, you may wait for postponement of fixed time.
[0028] And it judges whether CPU8 progresses to Step S8, and has change of setting data. Here, if it judges with there being no change, it will progress to Step S9. At Step S9, if it judges whether the set power supply OFF signal by the electric power switch 13 was supplied and a power supply OFF signal is detected, this flow chart will be considered as an end. On the other hand, if it judges with having not received the set power supply OFF signal, it will return to Step S7 here.
[0029] Moreover, if it judges, it will shift to the step S12 which has change of setting data at Step S8 and which is shown in drawing 4 .
[0030] If CPU8 judges with those of YES, i.e., setting data, with change by judgment at Step S8, as shown in Step S12, it will judge whether it is changing the equipment available time. Here, if it judges with changing the equipment available time, as shown in Step S13, it will ask for the input of the new equipment available time. Also in this case, that is displayed on the view fur section 7. On the other hand, if it judges with there being no change of the equipment available time, it will progress to Step S16 and will judge whether a password function is canceled. If a password function is canceled, it will progress to Step S17, the data of the memory 16 for data-hold will be updated, and this flow chart will be ended.
[0031] If the input of the new equipment available time shown in Step S13 makes a user judge whether it is right at Step S14 and is right there, CPU8 will update the data of the memory for data-hold, as shown in Step S15.
[0032] If it judges with not canceling a password function at Step S16, it will progress to Step S18 and will ask for the input of an equipment use effective date. The mode in which it asks for a password input by the effective date is also set to this camcorder/movie 1. And it checks to a user whether the above-mentioned effective date is sufficient at Step S19, and if good and it will become, as shown in Step S20, the data of the memory 16 for data-hold will be updated, and this flow chart will be ended.
[0033] The mode in which it asks for the password in the above-mentioned effective date is explained. If it becomes this mode, CPU8 will

communicate with a clock IC 18, and will investigate the date used as the present time entry. Moreover, the effective date which the memory 16 for data-hold communicates and is set up beforehand is investigated and compared.
[0034] If it is not over the setup time, a setting date is displayed on the view fur section 7. If it is over the setup time, the announcement which tells having exceeded the effective use date, and the announcement which asks for a password input will be displayed on the view fur section 7. And the above-mentioned picture is made to carry out quality-of-image degradation processing by the image-processing circuits 5 and 19 until a user does the completion of an input of the right password.
[0035] Thus, the camcorder/movie 1 used as the gestalt of the above-mentioned implementation makes only the regular user who inputted the right password use all the functions of equipment freely for every power up, and enables limitation of equipment licence time.
[0036] In addition, if operation as shown in CPU8 at drawing 5 is made to perform and the present resistance welding time does not exceed the equipment available time, you may make it not ask for the input of a new password, although this camcorder/movie 1 asked for the input of a password for every power up. That is, you may make it ask for a new password input only after the present resistance welding time exceeds an equipment time.
[0037] That is, when CPU8 is made to judge whether the resistance welding time exceeded the equipment available time as shown in Step S21 and excess is detected at it, as shown in Step S22, this modification makes the image-processing circuits 5 and 19 carry out quality-of-image degradation processing, and asks for a password input. On the other hand, if CPU8 judges with the resistance welding time not being over the equipment available time, it will progress to Step S8.
[0038] And at Step S22, CPU8 judges whether the password input for which it asked is right at Step S23, if it judges with it being right here, it will progress to Step S24, will cancel a protected mode, and will not make the image-processing circuits 5 and 19 carry out quality-of-image degradation processing, but will carry out through [of the video signal of the video-signal processing circuit 4].
[0039] In addition, since processing of each step except the above-mentioned step S21 - Step S24 is the same as processing of drawing 3 and drawing 4 , explanation is omitted here.
[0040] Therefore, since the demand of the password input for every power up is made unnecessary, though too much burden to a user is mitigated according to the modification of the gestalt of this operation, only the regular user who inputted the right password can be made to use all the functions of equipment freely, and limitation of equipment licence time is enabled.
[0041] In addition, in the gestalt of the above-mentioned implementation, and its modification, since the character input switch 11 and the character determination switch 12 constitute the data input section 10, the character determination switch 12 can determine in the case of an input of the above-mentioned password, displaying on the view fur section 7 the character inputted with the character input switch 11. That is, CPU8 displays the 1st character of an input password on a view fur, after displaying the announcement which asks for a password on the view fur section 7. This character changes in the number by the character input switch 11, and the combination of the alphabet. And a user pushes and determines the character determination switch 12, after finishing selection of one character with the character input switch 11. After the input of the 1st character is completed, after the display of the 1st character, CPU8 performs the display of the 2nd character and waits for a character input again. For this reason, operation of a password, the input of a time data, etc. can be simplified.
[0042] When the repeat of the above-mentioned operation is performed and an input character string becomes equal to a setting password, CPU8 indicates that the right password was inputted on the view fur section 7, and orders it to cancel quality-of-image degradation processing in the image-processing circuits 5 and 19. If this instruction is received, the image-processing circuits 5 and 19 will suspend quality-of-image degradation processing, and will output the video signal from the video-signal processing circuit 4 as a picture as it is.
[0043] Moreover, the memory 16 for data-hold may memorize a different special password peculiar to equipment from the password

beforehand memorized by the above-mentioned above-mentioned user. For this reason, when the user should have forgotten the password, change of a user setting password can be enabled in an equipment maker.
[0044] Moreover, you may make it have the function which makes unnecessary the above-mentioned quality-of-image degradation processing for the user who does not desire password use in the gestalt of the above-mentioned implementation, and its modification.
[0045]
[Effect of the Invention] A comparison result with the personal identification number data beforehand memorized by the personal identification number data needed at any time [into which the carried type image recording device concerning this invention was inputted by the data input means], and the data-storage means, Since control means control quality-of-image degradation processing of the above-mentioned image-processing means against the picture acquired by the image pck-up based on the comparison result of the time data which the user made the above-mentioned data-storage means memorize beforehand, and the time data at the time of equipment use Only the regular user who inputted the right personal identification number can use all the functions of equipment freely, and the before-it-happens prevention of the theft of equipment can be carried out, and limitation of equipment licence time is enabled.
[0046] Moreover, since the above-mentioned data input means is equipped with a character input switch and a character determination switch, and changes, the above-mentioned character determination switch is made to determine in the case of the input of the above-mentioned personal identification number, displaying on a display means the character inputted by the above-mentioned character input switch and the above-mentioned personal identification number is made to input, a user can do a password input simply.
[0047] Moreover, since the above-mentioned data-storage means has memorized a different special personal identification number peculiar to equipment from the personal identification number beforehand memorized by the above-mentioned user, when the user should have forgotten the password, it can enable change of a user setting password in an equipment maker.

[Translation done.]

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EFFECT OF THE INVENTION

[Effect of the Invention] Since the carried type image recording device concerning this invention controls quality-of-image degradation processing of the above-mentioned image-processing means against the picture from which control means were obtained by the image pck-up based on the comparison result of the time data which the user made the comparison result with the personal identification number data beforehand memorized by the personal identification number data needed at any time [which was inputted by the data input means], and the data-storage means, and the above-mentioned data-storage means memorize beforehand, and the time data at the time of equipment use. Only the regular user who inputted the right personal identification number can use all the functions of equipment freely, and the before-it-happens prevention of the theft of equipment can be carried out, and limitation of equipment licence time is enabled.
[0046] Moreover, since the above-mentioned data input means is equipped with a character input switch and a character determination switch, and changes, the above-mentioned character determination switch is made to determine in the case of the input of the above-mentioned personal identification number, displaying on a display means the character inputted by the above-mentioned character input switch and the above-mentioned personal identification number is made to input, a user can do a password input simply.
[0047] Moreover, since the above-mentioned data-storage means has memorized a different special personal identification number peculiar to equipment from the personal identification number beforehand memorized by the above-mentioned user, when the user should have forgotten the password, it can enable change of a user setting password in an equipment maker.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block diagram of the camcorder/movie used as the gestalt of operation of the carried type image recording device concerning this invention.
[Drawing 2] It is the appearance perspective diagram of the camcorder/movie used as the gestalt of the above-mentioned implementation.
[Drawing 3] It is a flow chart for explaining a part of operation of the camcorder/movie used as the gestalt of the above-mentioned implementation.
[Drawing 4] It is a flow chart for explaining the other sections of operation of the camcorder/movie used as the gestalt of the above-mentioned implementation.
[Drawing 5] It is a flow chart for explaining a part of operation of the modification of the camcorder/movie used as the gestalt of the above-mentioned implementation.
[Description of Notations]
1 Camcorder/movie, 2 Character Determination Switch, 15 Switch Reading Circuit, 17 Backup Cell, 18 Clock IC, 20 Signal Record Regenerative Circuit, 21 Magnetic Tape Lens Section, 3 Camera Section, 4 5 Video-Signal Processing Circuit, 19 Image-Processing Circuit, 6 View Fur Processing Circuit, 7 View Fur Section, 8 Central-Process Circuit, 9 Superimposition Section Circuit, 10 Data Input Section, 11-Character Input Switch, 12

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CLAIMS

[Claim(s)]
[Claim 1] The carried type image recording device which is characterized by providing the following and which records the video signal obtained by the image pck-up. An image-processing means to perform quality-of-image degradation processing to the picture which consists of the above-mentioned video signal. A data-storage means to memorize the data inputted irrespective of power off. The data input means for inputting the personal identification number needed for the above-mentioned data-storage means the personal identification number which the user makes memorize beforehand and a time data, and at any time. Control means which control quality-of-image degradation processing of the above-mentioned image-processing means against the above-mentioned picture based on the comparison result of the time data which the user made a comparison result and the above-mentioned data-storage means with the personal identification number data beforehand memorized by the personal identification number data needed at any time [which was inputted by the above-mentioned data input means / above-mentioned], and the above-mentioned data-storage means memorize beforehand, and the time data at the time of equipment use.
[Claim 2] The above-mentioned control means are carried type image recording devices according to claim 1 characterized by permitting renewal of the time data which the user made the above-mentioned data-storage means memorize beforehand by detection of coincidence of the above-mentioned personal identification number.
[Claim 3] The above-mentioned control means are carried type image recording devices according to claim 1 characterized by controlling the above-mentioned image-processing means according to the comparison result of the addition energization time data which asks by calculation and is backed up by the above-mentioned data-storage means, and the equipment usable time data which the user made the above-mentioned data-storage means memorize beforehand.
[Claim 4] The above-mentioned control means are carried type image recording devices according to claim 3 characterized by making quality-of-image degradation processing perform to the above-mentioned image-processing means, when the inequality of the personal identification number needed at any time [which was inputted by the above-mentioned data input means / above-mentioned] and the personal identification number beforehand memorized by the above-mentioned data-storage means is detected.
[Claim 5] The above-mentioned control means are carried type image recording devices according to claim 3 characterized by waiting for the input of the right above-mentioned personal identification number, and canceling the above-mentioned quality-of-image degradation processing to the above-mentioned picture by the above-mentioned image-processing means.
[Claim 6] The above-mentioned control means are carried type image recording devices according to claim 1 characterized by controlling the

above-mentioned image-processing means according to the comparison result of the time-entry data supplied from a time-of-day-control means to come to back up a power supply, and the last date time data beforehand memorized by the above-mentioned data-storage means.
[Claim 7] The above-mentioned control means are carried type image recording devices according to claim 6 characterized by making quality-of-image degradation processing perform to the above-mentioned image-processing means, when the inequality of the personal identification number needed at any time [which was inputted by the above-mentioned data input means / above-mentioned] and the personal identification number beforehand memorized by the above-mentioned data-storage means is detected.
[Claim 8] The above-mentioned control means are carried type image recording devices according to claim 6 characterized by waiting for the input of the right above-mentioned personal identification number, and canceling the above-mentioned quality-of-image degradation processing to the above-mentioned picture by the above-mentioned image-processing means.
[Claim 9] It is the carried type image recording device according to claim 1 carry out the above-mentioned data input means being equipped with a character input switch and a character determination switch, and changing, and making the above-mentioned character determination switch determine in the case of the input of the above-mentioned personal identification number, displaying on a display means the character inputted by the above-mentioned character input switch, and making the above-mentioned personal identification number input as the feature.

[Claim 10] For the personal identification number beforehand memorized by the above-mentioned user, the above-mentioned data-storage means is a carried type image recording device according to claim 1 characterized by having memorized a different special personal identification number peculiar to equipment.
[Claim 11] The carried type image recording device according to claim 1 characterized by having the function which makes unnecessary quality-of-image degradation processing to the above-mentioned picture by the above-mentioned image-processing means.
[Claim 12] The above-mentioned control means are carried type image recording devices according to claim 1 characterized by requiring the input of a personal identification number needed at any time [above-mentioned] for every power up.

[Translation done.]

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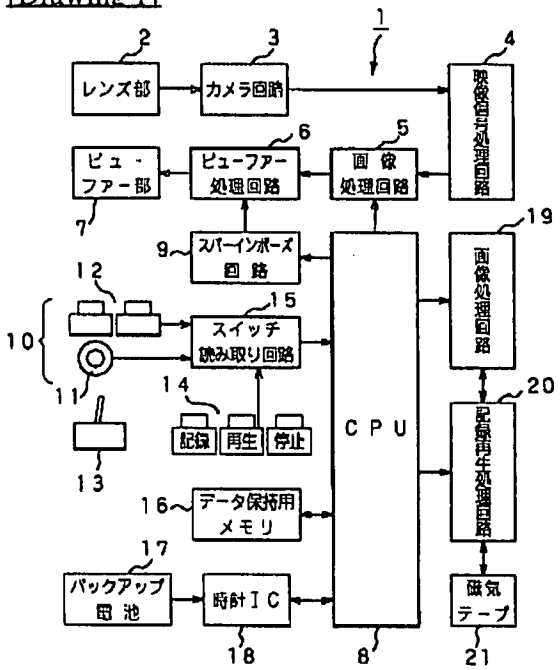
DRAWINGS

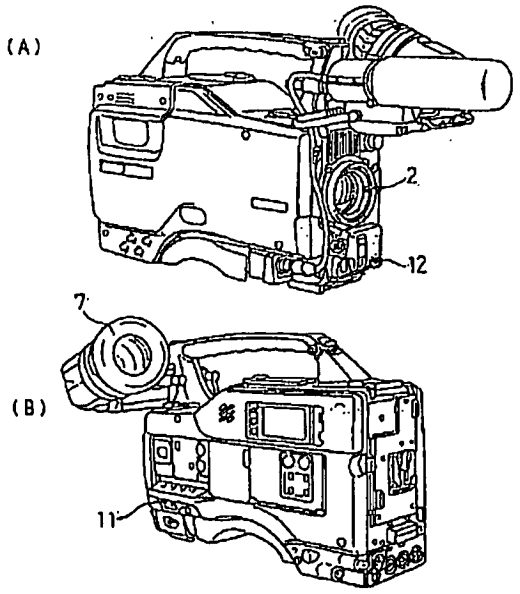
[Drawing 1]



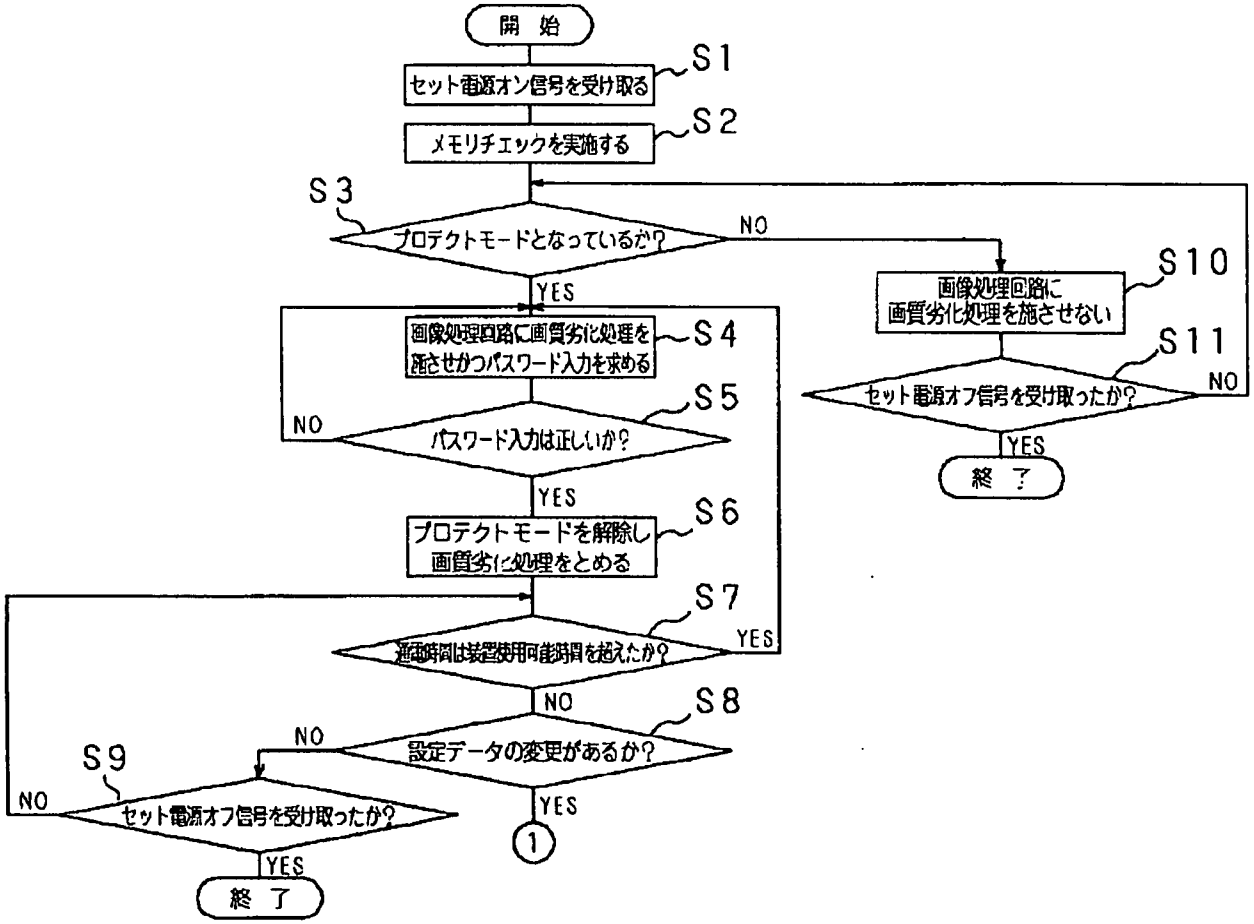
1：カメラー体型VTR
10：データ入力部
11：文字入力スイッチ
12：文字決定スイッチ
13：電源スイッチ
14：装置操作スイッチ

[Drawing 2]

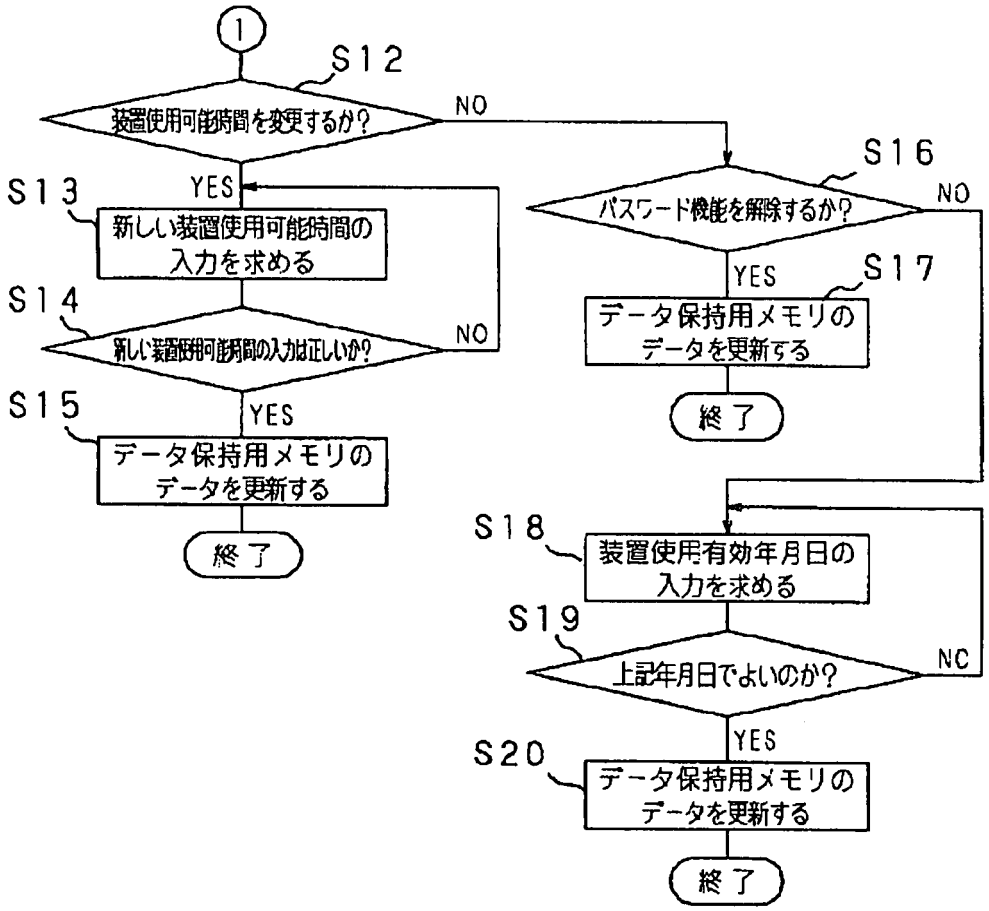
1 カメラー体型VTR



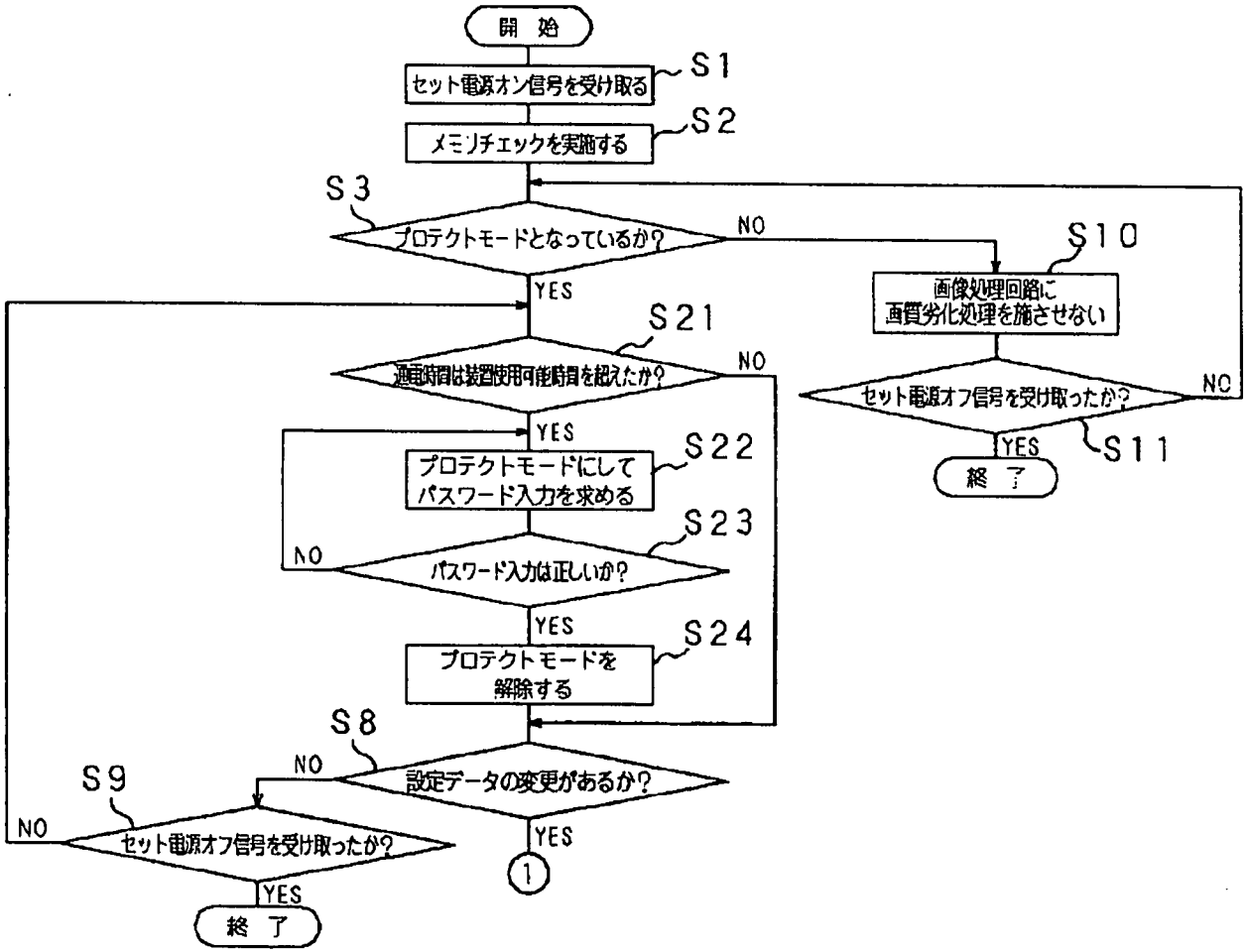
[Drawing 3]


開 始
セット電源オン信号を受け取る
S1
メモリチェックを実施する
S2
S3
プロテクトモードとなっているか?
NO
YES
画像処理回路に画質劣化処理を施させずかつパスワード入力を求める
S4
S5
NO
パスワード入力は正しいか?
YES
プロテクトモードを解除し画質劣化処理をとめる
S6
S7
通電時間は装置使用可能時間を超えたか?
YES
NO
S8
NO
設定データの変更があるか?
S9
NO
セット電源オフ信号を受け取ったか?
YES
終 了
YES
①
画像処理回路に画質劣化処理を施させない
S10
S11
セット電源オフ信号を受け取ったか?
NO
YES
終 了

[Drawing 4]


1
S12
装置使用可能時間を変更するか?
NO
YES
S13
新しい装置使用可能時間の入力を求める
S14
新しい装置使用可能時間の入力は正しいか?
NO
YES
S15
データ保持用メモリのデータを更新する
終了
S16
パスワード機能を解除するか?
NO
YES
S17
データ保持用メモリのデータを更新する
終了
S18
装置使用有効年月日の入力を求める
S19
上記年月日でよいのか?
NO
YES
S20
データ保持用メモリのデータを更新する
終了

[Drawing 5]



[Translation done.]